CLAIMS:

1. A current collector and seal combination for an electrochemical sensor having a housing, in which are located sensing and counter electrodes in contact with a liquid electrolyte, and connection apertures in a wall of the housing, the current collector and seal combination including:

- a flexible current collector adapted for direct contact with one of the sensor's electrodes and
- a compliant seal adapted to fit in the one of the connection apertures, the current collector extending through the compliant seal,
- the seal being in contact with the collector substantially throughout its length along the current collector and
- the seal being of an elastomeric material,

the arrangement being such that compressive stress induced in the seal by reaction from the connection aperture urges the seal into distributed sealing contact with the current collector substantially throughout the length of the seal.

2. A current collector and seal combination as claimed in claim 1, wherein the seal is longer than its outer diameter or other major cross-sectional dimension.

3. A current collector and seal combination as claimed in claim 2, wherein the ratio of the seal length to outer diameter is of the order of 3:1 at least.

4. A current collector and seal combination as claimed in claim 1, claim 2 or claim 3, wherein the ratio of the length and/or the diameter of the seal to the diameter of the current collector is at least of the order of 10:1.

5. A current collector and seal combination as claimed in claim 4, wherein the ratio of the length of the seal to the diameter of the current collector is at least of the order of 30:1.

6. A current collector and seal combination as claimed in any preceding claim, wherein the compliant seal is injection moulded as an over-moulding onto the current collector.

7. A current collector and seal combination as claimed in any one of claims 1 to 6, wherein the compliant seal is moulded with a central through-bore for threading of the current collector through it.

8. A current collector and seal combination as claimed in any one of claims 1 to 6, wherein the compliant seal is moulded with a slot, nick or notch, for introduction of the current collector into it.

9. A current collector and seal combination as claimed in any one of claims 1 to 6, wherein the compliant seal is moulded as two complementary halves having a central groove for receiving the current collector.

10. A current collector and seal combination as claimed in any preceding claim, wherein the seal has one or more ridges extending around its outer circumference.

11. A current collector and seal combination as claimed in any preceding claim, wherein the seal has a cylindrical body and the larger diameter outer end boss.

12. A current collector and seal combination as claimed in any preceding claim, wherein the seal has a tapered nose.

13. An electrochemical gas sensor having:

- a housing having at least one wall and a plurality of connection apertures through the said wall, the apertures having bores,
- sensing and counter electrodes housed in the housing,
- a liquid electrolyte contained in the housing in chemical contact with the electrodes and
- a plurality of current collectors in electrical contact with respective ones of the respective electrodes;

characterised in that:

- the plurality of current collectors are in combination with a corresponding plurality of compliant seals in accordance with any one of claims 1 to 10; in that
- the current collectors extend within their seals through respective ones of the apertures from their electrodes to outside the housing; and in that
- the compliant seals are in compression against both their current collectors and at least part of the bores of their apertures, whereby the current collectors provide means for electrical contact outside the housing and the apertures are sealed.

14. An electrochemical sensor as claimed in claim 12, wherein the seal is an interference fit in the aperture.

15. An electrochemical sensor as claimed in claim 12 or claim 13, wherein the seal have cylindrical bodies and the larger diameter outer end bosses and the connection apertures have a complementary shape.

16. An electrochemical sensor as claimed in claim 12, claim 13 or claim 14, including metallic end caps clipped to the housing and captivating the current collectors, thereby providing electrical connections for the sensor.

17. An electrochemical gas sensor having:

- a housing having at least one wall and a plurality of connection apertures through the said wall, the apertures having bores,
- sensing and counter electrodes housed in the housing,
- a liquid electrolyte contained in the housing in chemical contact with the electrodes and
- a plurality of current collectors in electrical contact with respective ones of the respective electrodes;

characterised in that:

- the plurality of current collectors are in combination with a corresponding plurality of compliant seals in accordance with any one of claims 1 to 5; in that
- the current collectors extend through respective ones of the apertures from their electrodes to outside the housing; in that
- the compliant seals are in compression against both their current collectors and at least part of the bores of their apertures, whereby the current collectors provide means for electrical contact without the housing and the apertures are sealed; in that
- current collectors are preliminarily located in the connection apertures; in that
- the compliant seals are back-fillings of sealing material into the connection apertures; and in that
- the back-fillings are compressed by end caps.

18. An electrochemical sensor as claimed in claim 17, wherein the end caps are metallic and clipped to the housing and captivate the current collectors, thereby providing electrical connections for the sensor.

19. An electrochemical sensor as claimed in any one of claims 13 to 18, wherein the elastic modulii of the housing and of the seal differ by at least two orders of magnitude, housing being stiffer and the seal being more compliant.

20. A method of manufacturing a current collector and seal combination for an electrochemical sensor, the method consisting in the steps of:

- moulding a seal about the current collector using an injection moulding tool,
- indexing the current collector and moulded seal with respect to the tool and
- then repeating the moulding process.

21. A method of manufacturing a current collector and seal combination for an electrochemical sensor, the method consisting in the steps of:

- moulding a sensor housing wall with a connection aperture about the current collector using an injection moulding tool, the current collector being free in the connection aperture, and
- moulding a compliant seal in the connection aperture.